

# **CENTRAL MACHINERY**® **5.5 HP CHIPPER/SHREDDER**

**Model 95964**

## **OPERATING INSTRUCTIONS**



Visit our website at: <http://www.harborfreight.com>



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**Read this material before using this product.  
Failure to do so can result in serious injury.  
SAVE THIS MANUAL.**

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**For technical questions or replacement parts, please call 1-800-444-3353.**

Revised Manual 10d

## SPECIFICATIONS

Chipper Chute Capacity	1-1/4" Maximum Diameter
Chipper Dimensions	2-3/4" x 2-3/4" Square opening
Hopper Capacity	3/8" Maximum Limb Diameter
Hopper Dimensions	18" L x 14-3/4" W
Blade	One Shredding Plate 4 Chipper Blades
Accessories	Spark Plug Wrench
Ground Clearance	3-1/2" At Lowest Point
Wheel Type	7-1/2" Dia. x 2-1/4" W. Solid Rubber & Plastic
Engine Type	Engine Family: 7YJ GS, 1631YC, EM 0.55 gallon, 5.5 HP, OHV Gas Engine 2007 E.P.A. Phase II 2007 California EVH & EVP Oil Capacity: 20 ounces (0.6 liter)

The Emission Control System for this engine is warranted for standards set by the U.S. Environmental Protection Agency and by the California Air Resources Board (also known as CARB). For warranty information, refer to the last pages of this manual.

**NOTE: This product requires oil and fuel to be added before starting. Attempting to start the Engine without oil WILL ruin the Engine and void the warranty.**

### Save This Manual

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Write the product's serial number in the back of the manual near the assembly diagram, or write month and year of purchase if product has no number. Keep this manual and invoice in a safe and dry place for future reference.

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## GENERAL SAFETY WARNINGS

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**WARNING! Read all instructions**

**Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.** The term “power tool” in all of the warnings listed below refers to your line-operated (corded) power tool or battery-operated (cordless) power tool.

### **SAVE THESE INSTRUCTIONS**

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate the Chipper/Shredder in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** The Chipper/Shredder can create sparks which may ignite the dust or fumes.
3. **Keep children and visitors away while operating the Chipper/Shredder.** Distractions can cause you to lose control. Provide barriers or shields as needed.
4. **Stay alert.** Watch what you are doing and use common sense when operating the Chipper/Shredder. Do not use the Chipper/Shredder while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the Chipper/Shredder may result in serious personal injury.
5. **Dress properly.** Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
6. **Avoid accidental starting.** Be sure the Engine Ignition is in the “OFF” position before moving the Chipper/Shredder or before performing any service, maintenance, or cleaning procedures on the unit.
7. **Remove adjusting keys or wrenches before turning the Chipper/Shredder on.** A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.
8. **Do not overreach.** Keep proper footing and balance at all times.
9. **Use safety equipment.** Always wear ANSI approved safety impact goggles, heavy-duty work gloves, and a dust mask or respirator when using this product. ANSI approved hearing protection must also be used.
10. **Do not force the tool.** Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.
11. **Do not use the Chipper/Shredder if the On/Off Switch does not turn it on or off.** Any tool that cannot be controlled with its power switch is dangerous and must be replaced.

12. **Store the Chipper/Shredder out of reach of children and other untrained persons.** The Chipper/Shredder is dangerous in the hands of untrained users. Keep children away from this product when in use. Store out of reach of children.
13. **Maintain the Chipper/Shredder with care.** Properly maintained equipment is less likely to malfunction and is easier to control. Do not use the Chipper/Shredder if it is damaged. Tag it “Do not use” until repaired.
14. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the Chipper/Shredder’s operation.** If damaged, have the Chipper/Shredder serviced before using. Many accidents are caused by poorly maintained tools.
15. **Service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
16. **When servicing the Chipper/Shredder, use only identical replacement parts.** Follow instructions in the “Inspection, Maintenance, And Cleaning” section of this manual. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

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## **SPECIFIC SAFETY RULES AND PRECAUTIONS**

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**PLEASE NOTE: Your Warranty is voided if you do not put engine oil in the Engine’s crankcase prior to its first use.** Before each use, check the oil level. Never run the Engine with low or no engine oil. Running the Engine with low or no oil will permanently damage the unit.

1. **The Engine’s Carburetor may need to be adjusted by a qualified mechanic for efficient high-altitude use.**
2. **Maintain labels and nameplates on the Chipper/Shredder.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
3. **Make sure the Chipper/Shredder is located on a flat, level, sturdy surface capable of supporting the weight of the Chipper/Shredder and any additional tools and equipment.**
4. **Industrial applications must follow OSHA guidelines.**
5. **Never stand on the Chipper/Shredder.** Serious injury could result if the machine tips over.
6. **Never leave the Chipper/Shredder unattended when it is running.** Turn off the Engine before leaving.

7. **Be extremely cautious of the rotating Blades in the Chipper/Shredder.** Never allow your hands, fingers, or any other part of your body to enter the Chipper or Shredder hopper units.
8. **Never place your hands, fingers, feet, or any other part of your body close to the Discharge Opening while the Chipper/Shredder is in operation.**
9. **Do not look into the Hoppers or Discharge Opening when the machine is running.**
10. **Never allow metal, stone, glass, or other foreign objects to be fed into the Chipper/Shredder.** Use a stick to push the tree limbs, leaves, etc. into the feed Hopper.
11. **Do not attempt to use the machine on a slope or slick surface.**
12. **Always feed branches slowly into the machine.**
13. **Branches larger than 1-1/4" diameter should not be fed into the chipper chute and branches larger than 3/8" diameter should not be fed into the hopper.**
14. **Do not allow processed material to build up in the discharge area.** This may prevent proper discharge and can result in kickback of material through the feed Hopper.
15. **If the machine becomes clogged, immediately turn the Engine off.** Wait until the Chipper/Shredder comes to a complete stop. Unplug the Spark Plug Wire from the Spark Plug. Then clear the machine of the clogged material.
16. **Do not allow children and other untrained people to handle or play with the Chipper/Shredder.** Never allow people or animals in the work area.
17. **Do not force the Chipper/Shredder.** This tool will do the work better and safer at the speed and capacity for which it was designed.
18. **People with pacemakers should consult their physician(s) before use.** Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.
19. **WARNING: This product contains or, when used, produces a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.** (California Health & Safety Code § 25249.5, *et seq.*)

### **FIRE AND EXPLOSION PRECAUTIONS**

1. **Gasoline fuel and fumes are flammable, and potentially explosive.** Use proper fuel storage and handling procedures. Always have multiple ABC class fire extinguishers nearby.

2. **Keep the Chipper/Shredder, its Engine, and surrounding areas clean at all times.**
3. **When fuel or oil spills, it must be cleaned up immediately.** Dispose of fluids and cleaning materials as per any local, state, or federal codes and regulations. Store oil rags in a covered metal container with a ventilated bottom.
4. **Never store fuel or other flammable materials near the Chipper/Shredder.**
5. **Do not smoke, or allow sparks, flames, or other sources of ignition around the machine.**
6. **Keep grounded, conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing.** These events could ignite fumes or vapors.
7. **Do not refill the Fuel Tank or oil while the Engine is running or while the Engine is still hot.** Do not operate the machine with known leaks in the fuel system.
8. **Use only Engine manufacturer recommended fuel and oil.**

### **MECHANICAL PRECAUTIONS**

1. **Prior to performing service, maintenance, or cleaning procedures, always make sure the Engine's Ignition is in its "OFF" position.** Allow the Engine to completely cool. Then, remove the spark plug from the Engine.
2. **Do not alter or adjust any part of the Chipper/Shredder or Engine that is assembled and supplied by the manufacturer or distributor.**
3. **Always follow and complete scheduled Engine maintenance.**

### **CHEMICAL PRECAUTIONS**

1. **Avoid contact with hot fuel, oil, exhaust fumes, and solid surfaces.**
2. **Avoid body contact with fuels, oils, and lubricants used in the Engine**
3. **If swallowed, seek medical treatment immediately.** Do not induce vomiting if fuel is swallowed. For skin contact, immediately wash with soap and water. For eye contact, immediately flush eyes with clean water.
4. **This Chipper/Shredder is designed for outdoor use only.** Do not operate the Chipper/Shredder in a closed area or in a poorly ventilated area. When running, the Engine of this machine produces carbon monoxide, a colorless, odorless, toxic gas that, when inhaled, can cause serious personal injury or death. Whenever possible, use a carbon monoxide detector (not included) to detect excessive carbon monoxide fumes in the work area and in the surrounding area.

## NOISE PRECAUTIONS

**Exposure to high noise levels is hazardous to hearing.** Always wear ANSI approved hearing protection when operating or working around the Chipper/Shredder when it is running.

**CAUTION:** The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

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## UNPACKING

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When unpacking, check to make sure all the parts shown on the Parts Lists are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

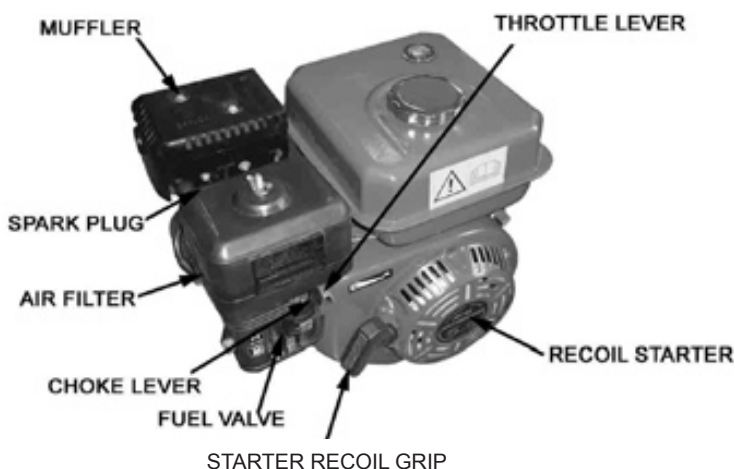
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## ENGINE INSTRUCTIONS

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### Before starting the Engine

**CAUTION!** Your warranty is voided if you do not put engine oil in the Engine's crankcase prior to its first use.



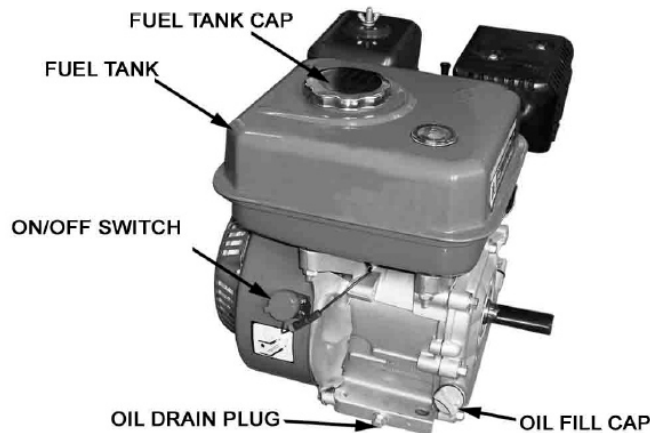
The Engine **MUST** be filled with a high quality engine oil. If the Engine will be run in temperatures above 32 degrees Fahrenheit, use SAE 10W-30 weight oil. If the Engine will be run in temperatures below 32 degrees Fahrenheit, use SAE 5W-30 weight oil.

## Oil Instructions

### Filling Engine Oil:

**Note:** Check oil level only when Engine is stopped and on a level surface.

1. Wipe the immediate surrounding area of the Oil Fill Cap. Unscrew and remove the Oil Fill Cap. Wipe the dipstick connected to the Fill Cap clean, reinsert briefly, remove and examine.
2. If the oil on the dipstick indicates that Engine oil level is low, fill to the edge of the oil filler hole with the appropriate oil. A pressure feed can (not included) is recommended. See Harbor Freight Tools' SKU 36629. The Engine takes approximately 20 fluid ounces of oil in total.
3. Make sure to screw the Oil Fill Cap firmly back into place.



### To Change Oil:

1. Start and run Engine until it is warm, then turn the Engine off.
2. Place a pan capable of holding more than 20 ounces of oil underneath Oil Drain Plug to catch oil.
3. Remove Oil Drain Plug, Oil Fill Cap and washer.
4. Allow oil to drain completely, then reinstall washer and Oil Drain Plug.
5. Fill with about 20 ounces of recommended oil.

**Note:** Dispose of used oil and oil rags in a manner consistent with State and Local laws and ordinances.

## Fuel Instructions

**Note:** Check fuel level only when Engine is stopped and on a level surface.



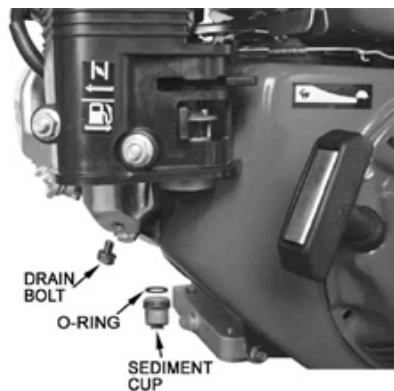
### **Filling the Fuel:**

1. Prior to the initial use of the Chipper/Shredder, the fuel tank **MUST** be filled with approximately one half gallon of unleaded gasoline with a pump octane rating of 86 or higher.
2. Remove the Fuel Tank Cap and fill the fuel tank with unleaded gasoline. Then, replace the Fuel Tank Cap. When necessary, refill the Fuel Tank.

### **Draining The Fuel Tank and Carburetor:**

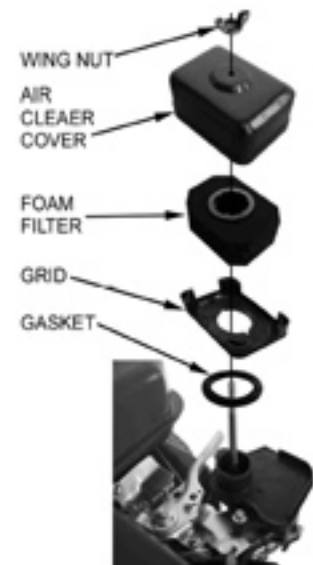
1. Place an approved gasoline container below the carburetor. Be prepared to hold a funnel beneath the Drain Bolt to direct the gasoline into the container.
2. Remove Drain Bolt and Sediment Cup and move the Fuel Valve lever to the "ON" position.
3. After the Fuel has drained, reinstall the Drain Bolt and Sediment Cup.

**NOTE:** Periodically check the Sediment Cup for excessive dirt and debris, when necessary clean with nonflammable solvent.



### **Air Filter**

1. Remove the Wing Nut and Air Cleaner Cover.
2. Carefully remove the plastic grid and foam air filter from the bottom of the cover.
3. Wash the air filter in warm water with a mild, non-fuel-reactive detergent, rinse with clean water and allow to dry completely.
4. Wipe the inside of the air cleaner base and cover using a moist towel.
5. Return the clean (or new) air filter to the Air Cleaner Cover and put plastic grid back in place.



6. Reinstall the Air Cleaner, making sure that the gasket is in place.

### **Spark Plug**

**Recommended spark plugs:** BPR6ES (NGK®), W20EPR-U (Denso®), or equivalent.

1. To check the spark plug. Disconnect the spark plug cap and remove the spark plug with a 13/16" spark plug wrench.
2. Inspect the spark plug, if electrodes are worn or insulator is chipped or cracked, replace the spark plug.
3. The gauge for the spark plug gap should be set to 0.028-0.031".
4. Install the spark plug with a 13/16" spark plug wrench and connect spark plug cap.

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## **CHIPPER/SHREDDER OPERATION**

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### **Before Starting**

1. Use safety equipment. Always wear ANSI approved safety impact goggles and hearing protection, heavy duty work gloves, and a dust mask or respirator when using this product.
2. Check underneath the Chipper/Shredder to make sure there are no spots that would indicate an oil or gas leak. If there are any leaks, do not use the Chipper/Shredder and contact a qualified repair professional for maintenance.
3. Inspect the condition of the Chipper/Shredder. Ensure that all shields and covers are in place. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect the safe operation of the machine. If abnormal noise or vibration occurs, have the problem corrected before further use. Do not use damaged equipment. Place on a flat, level surface.
4. Check the oil level. Never run the Engine with low or no engine oil. Running the engine with low or no oil will permanently damage the Engine.

### **Starting Engine**

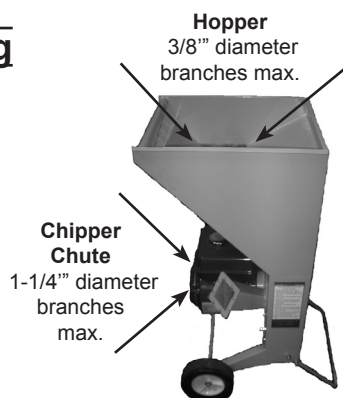
1. Move the Fuel Valve lever to the "ON" position.
2. To start a cold engine, move the Choke lever to the "CLOSED" position. If the engine is already warmed up, leave the Choke lever in the "OPEN" position.
3. Move the Throttle lever about 1/3 of the way toward the "FAST" position.
4. Turn the On/Off Switch to the "ON" position.
5. Take hold of the Starter Recoil Grip firmly and pull slowly until there is resistance, then pull briskly to start engine. Repeat as necessary.

6. As engine warms up, gradually move the Choke lever to the “OPEN” position.

## **Shredding and Chipping**

### **IMPORTANT: Do not force the Chipper/Shredder.**

Branches cannot be larger than 3/8” in diameter for Hopper and branches cannot be larger than 1-1/4” in diameter for Chipper Chute. Do not attempt to force large branches into hoppers. Do not force Chipper/Shredder, the machine is designed to draw material at its own pace.



1. Without putting your hands into Shredder (on top), slowly drop material into the Hopper (one branch at a time). The machine will pull the material in automatically.

**WARNING!** Never use your hands to feed material directly into the Shredder. If needed, use a stick to push the branches, leaves, etc. into the Shredder.

2. The Chipper is located on the side of the unit, only feed one branch in at a time.
3. Material discharges from bottom of Chipper/Shredder. Stand clear to avoid shredded debris.
4. Do not allow processed material to build-up in the discharge zone. This may prevent proper discharge and can result in kickback of material.
5. Should Chipper/Shredder jam during use, immediately turn Engine’s On/Off Switch to the “OFF” position. Wait until the machine completely stops. Clear the jam in the machine by shifting the material with a long stick. Then, resume operation.
6. When finished, turn the Engine’s On/Off Switch to its “OFF” position. Wait until the machine completely stops before moving or cleaning the Chipper/Shredder.
7. Store the unit (with spark plug removed) in a clean, dry, safe location out of reach of children and other unauthorized people.

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## **INSPECTION, MAINTENANCE, AND CLEANING**

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1. **WARNING!** The spark plug wire must be disconnected and the On/Off Switch must be in the “OFF” position prior to performing any service, maintenance, or cleaning of the Chipper/Shredder.
2. Before each use, visually inspect the general condition of the Chipper/Shredder. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect the safe operation of the machine. Start the engine, and if abnormal noise or vibration occurs, have the problem corrected before further use. Do not use damaged equipment.

3. Before storing, unhook spark plug wire from spark plug, drain all fuel out of the Engine's Fuel Tank. If this is not done, old fuel in the Fuel Tank may clog the Carburetor of the Engine and prevent it from starting until cleaned out. Store the unit in a clean, dry, safe location out of reach of children and other unauthorized people.

## MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3) ITEM		Perform at every indicated month or operating hour interval, whichever comes first.	Each use	First month or 20 Hours	Every 3 months or 50 Hours	Every 6 months or 100 Hours	Every year or 300 Hours	Refer to page	
•	Engine oil	Check level	✓						
		Change		✓		✓			
	Reduction gear oil	Check level	✓						
	(applicable types)	Change		✓		✓			
•	Air filter	Check	✓						
		Clean			✓ (1)	✓ (1)			
		Replace					✓ **		
•	Sediment cup	Clean				✓			
•	Sparkplug	Check-adjust				✓			
		Replace					✓		
	Spark arresster (optional parts)	Clean				✓			
•	Idle speed	Check-adjust					✓ (2)		
•	Valve clearance	Check-adjust					✓ (2)	—	
•	Combustion chamber	Clean	After every 500 Hours (2)						—
•	Fuel tank & filter	Clean				✓ (2)		—	
•	Fuel tube	Check	Every 2 years (Replace if necessary) (2)						—

• Emission-related items.

• Internal vent carburetor (See page 7) with dual element type only.

\*\* Replace paper element type only.

(1) Service more frequently when used in dusty areas.

(2) These items should be serviced by a qualified mechanic, unless you have the proper tools and are mechanically proficient.

(3) For commercial use, log hours of operation to determine proper maintenance intervals.

## **TROUBLESHOOTING**

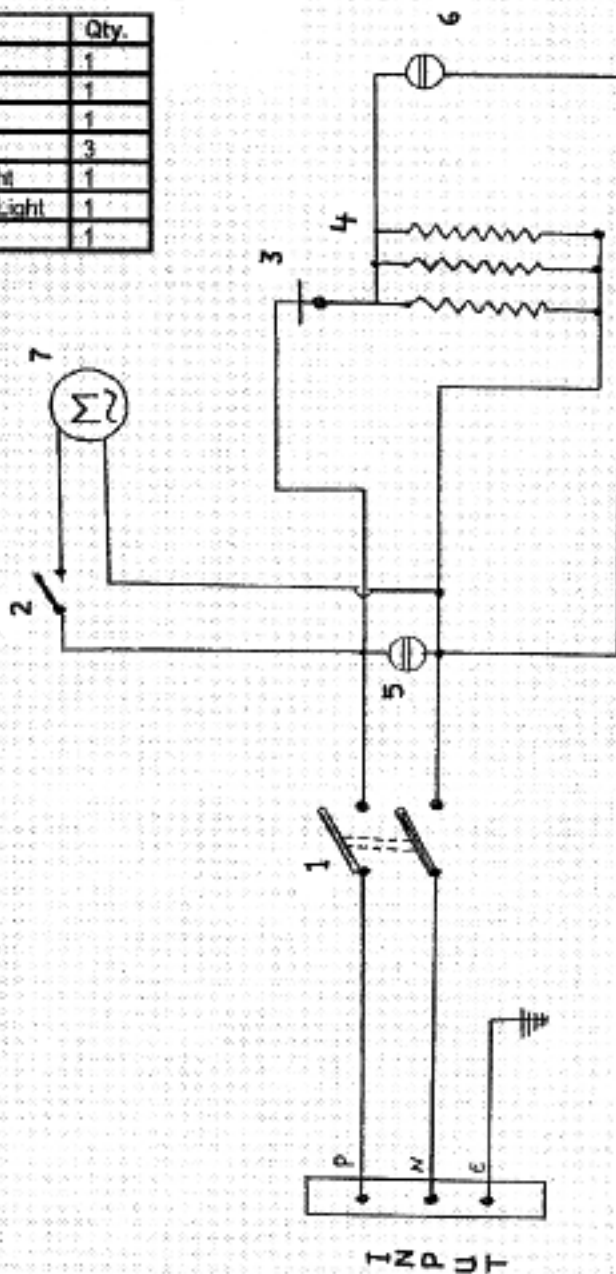
<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTION</b>
Engine Will Not Start	1. Fuel valve OFF.	1. Move fuel valve lever to ON.
	2. Choke OPEN.	2. Move choke lever to CLOSED unless engine is warm.
	3. Engine switch OFF.	3. Turn engine switch to ON.
	4. Out of fuel.	4. Refuel.
	5. Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	5. Drain fuel tank and carburetor. Refuel with fresh gasoline.
	6. Spark plug faulty, fouled, or improperly gapped.	6. Remove and inspect spark plug. Clean, gap, or replace spark plug.
	7. Spark plug wet with fuel (flooded engine).	7. Remove and inspect spark plug. Dry and reinstall spark plug. Start engine with throttle lever in FAST position.
	8. Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	8. Take engine to a qualified mechanic. Replace or repair faulty components as necessary.
Engine Lacks Power	1. Filter element(s) clogged.	1. Check air filter. Clean or replace filter.
	2. Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	2. Drain fuel tank and carburetor. Refuel with fresh gasoline.
	3. Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	3. Take engine to a qualified mechanic. Replace or repair faulty components as necessary.

### **PLEASE READ THE FOLLOWING CAREFULLY**

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

## SCHEMATIC ASSEMBLY DIAGRAM

Part #	Description	Qty.
1	Main ON/OFF Switch	1
2	Fan ON/OFF Switch	1
3	Thermostat	1
4	Heaters	3
5	Main ON Indicator Light	1
6	Heaters ON Indicator Light	1
7	Blower Motor	1



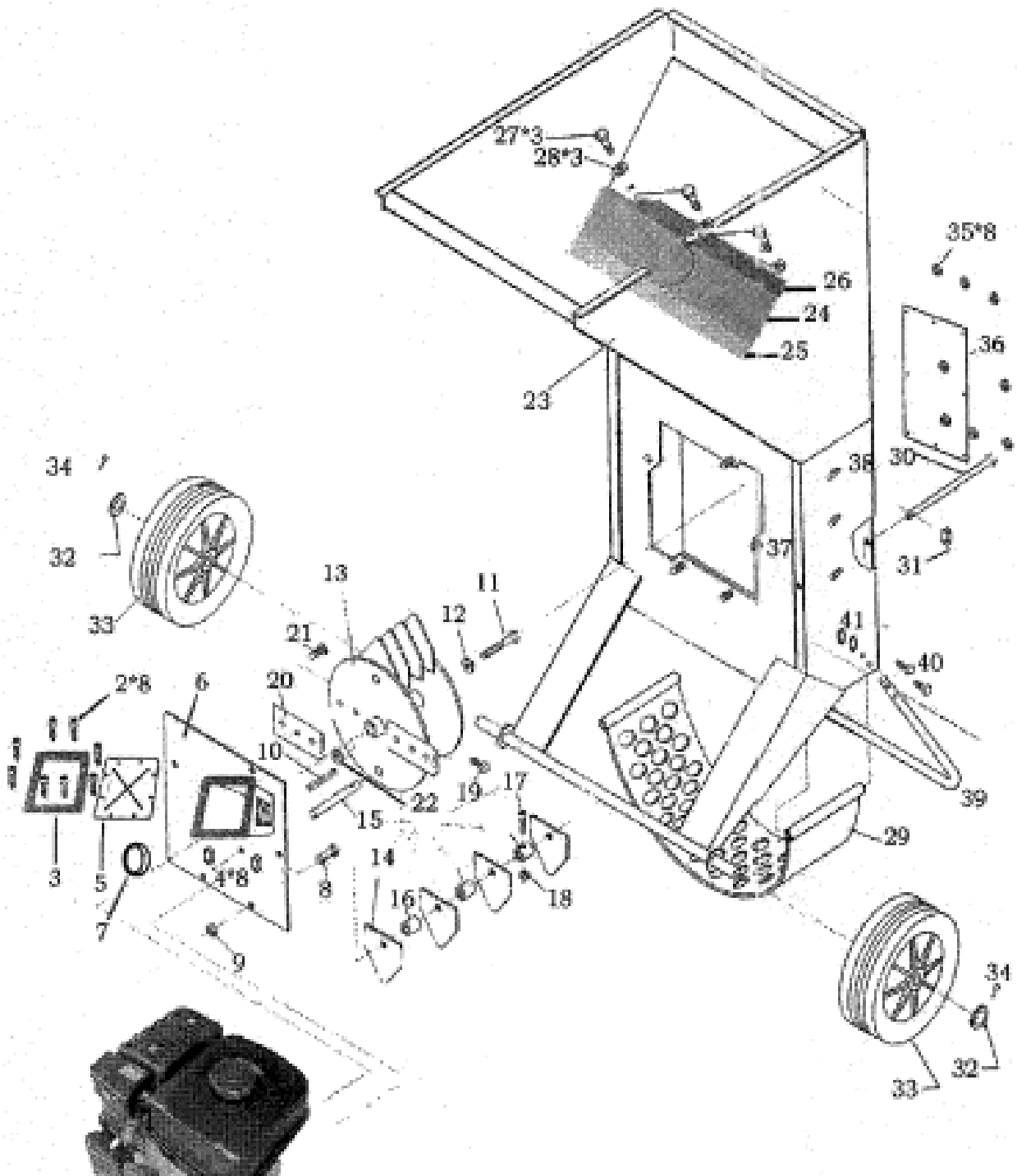
## CHIPPER/SHREDDER PARTS LIST

Part	Description	Qty
1	Engine	1
2	Screw M5 x 12	8
3	Safety Pressboard	1
4	Lock Nut M5	8
5	Rubber Board	1
6	Fixed Board	1
7	Bearing 6304	1
8	Screw M8 x 40	4
9	Nut M8	6
10	Key Pin 6 x 100	1
11	Fixed Screw M8 x 55	1
12	Washer 8 x 28	1
13	Blade Disk Bracket	1
14	Fly Bar	8
15	Fly Bar Axle	2
16	Sleeve	6
17	Fixed Screw M5 x 25	2
18	Fixed Nut M5	2
19	Tightening Screw M6 x 12	2
20	Heavy Blade	2
21	Screw M8 x 12	4
22	Adjustable Washer	22

Part	Description	Qty
23	Hopper	1
24	Rubber Debris Shield 3 x 110 x 374mm	1
25	Splash-Proof Rubber 2 x 125 x 374mm	1
26	Press Board	1
27	Screw M8 x 20	3
28	Self-Lock Nut M8	3
29	Screen Plate	1
30	Screw M8 x 145	2
31	Nut M8	2
32	Washer 13x24	4
33	Rolling Wheel	2
34	Cotter Pin	2
35	Assembly Nut M8	8
36	Assembly Board	1
37	Bolt M8x20	6
38	Bolt M8x16	8
39	Back Bracket	1
40	Assembly Bolt M8x25	4
41	Self-locking Nut M8	4

**Note:** Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

# CHIPPER/SHREDDER ASSEMBLY DIAGRAM

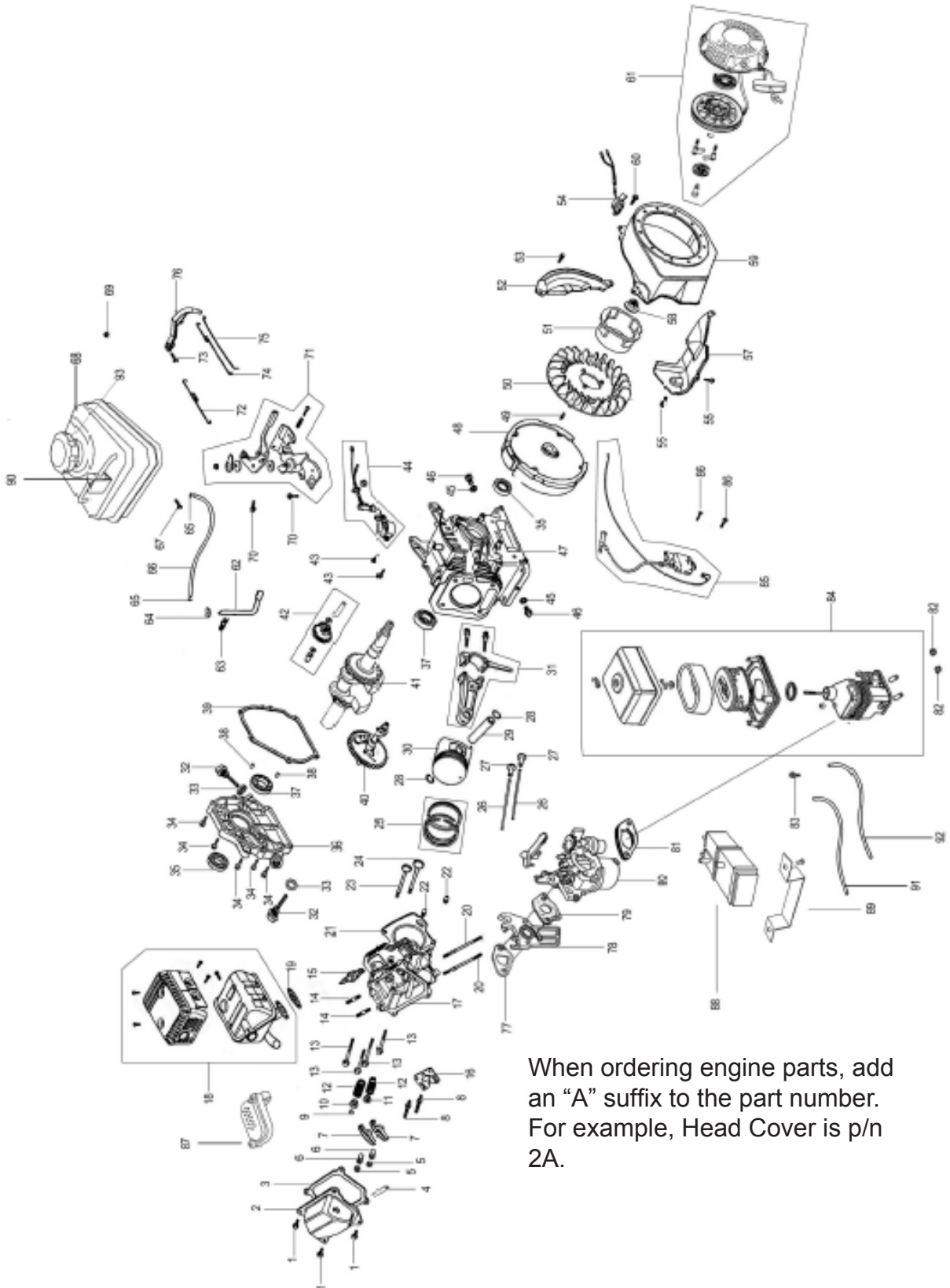




## ENGINE PARTS LIST

Part	Description	Qty	Part	Description	Qty	Part	Description	Qty
1A	Flange Bolt M6x12	4	31A	Connecting Rod Assembly	1	61A-1	Recoil Starter Assembly	1
2A	Head Cover	1	32A	Oil Dipstick	2	62A	Rocker	1
3A	Head Cover Packing	1	33A	Oil Scale Seal Ring	2	63A	8mm Lock Pin	1
4A	Breather Tube	1	34A	Flange Bolt M8x28		64A	6mm Governor Pin	1
5A	Locknut	2	35A	Oil Seal	2	65A	Tube Clip	2
6A	Adjusting Nut	2	36A	Crankcase Cover Assembly	1	66A	Fuel Tube	1
7A	Rocker Arm	2	37A	Ball Bearing	2	67A	Flange Bolt M6x12	1
8A	Rocker Bolt M8	2	38A	Dowel Pin 8x14	2	68A-1	Fuel Tank	1
9A	Ex. Valve Helmet	1	39A	Case Cover Packing	1	69A	Flange Nut M6	3
10A	Ex. Valve Spring Retainer	1	40A	Camshaft Assembly	1	70A	Flange Bolt M6x12	2
11A	In. Valve Spring Retainer	1	41A	Crankshaft	1	71A	Control Assembly	1
12A	Valve Spring	2	42A	Governor Gear Assembly	1	72A	Governor Spring	1
13A	Flange Bolt M8x58	4	43A	Flange Bolt M6x20	2	73A	Quadrate Bolt M6	1
14A	Exhaust Pipe Stud Bolt	2	44A	Oil Level Switch Assembly	1	74A	Throttle Return Spring	1
15A	Spark Plug	1	45A	Drain Plug Washer 10.2mm	2	75A	Governor Rod	1
16A	Push Rod Guide Plate	1	46A	Drain Plug Bolt	2	76A	Control Arm	1
17A	Cylinder Head	1	47A-1	Crank Case	1	77A	Intake Pipe Gasket	1
18A-1	Muffler	1	48A	Flywheel	1	78A	Carburetor Insulating Plate	1
19A	Muffler Gasket	1	49A	Key	1	79A	Carburetor Paper Gasket	1
20A	Carburetor Stud Bolt	2	50A	Cooling Fan	1	80A-1	Carburetor	1
21A	Cylinder Head Gasket	1	51A	Starter Pulley	1	81A	Carburetor Spacer	1
22A	Dowel Pin 10x16	2	52A	Flywheel Side Plate	1	82A	Flange Nut M6	2
23A	Ex. Valve	1	53A	Flange Bolt M6x16	1	83A	Flange Bolt M6x20	1
24A	In. Valve	1	54A	Engine Stop Switch Assembly	1	84A-1	Air Cleaner	1
25A	Piston Ring Set	1	55A	Flange Bolt M6x12	2	85A	Ignition Coil Assembly	1
26A	Push Rod	2	56A	Recoil Starter Spacer	1	86A	Flange Bolt M6x25	2
27A	Valve Lifter	2	57A	Shroud	1	87A	Air Valve	1
28A	Piston Pin Clip 18mm	2	58A	Flywheel Nut	1	88A	Carbon Canister	1
29A	Piston Pin	1	59A-1	Fan Cover	1	89A	Bracket	1
30A	Piston	1	60A	Flange Bolt M6x12	4	90A	Overflow Valve	1
						91A	Fuel Tube A	1
						92A	Fuel Tube B	1
						93A	Tank Cover	1

# ENGINE ASSEMBLY



When ordering engine parts, add an "A" suffix to the part number. For example, Head Cover is p/n 2A.

# Emission Control System Warranty

## California and United States Emission Control Defects Warranty Statement

The California Air Resources Board (herein CARB), the United States Environmental Protection Agency (herein EPA), and Harbor Freight Tools® (herein HFT) are pleased to explain the emission control system warranty on your 1995 and later Small Off-Road Engine (herein engine). In California, the engine must be designed, built and equipped to meet the State's stringent anti-smog standards. Elsewhere within the United States, new off-road, spark-ignition engines certified for model year 1997 and later, must meet similar standards set forth by the EPA. HFT must warrant the emission control system on your engine for the periods of time described below, provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the carburetor or fuel-injection system, and the ignition system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, HFT will repair your engine at no cost to you including diagnosis, parts and labor.

## Manufacturer's Warranty Coverage

The 1995 and later engines are warranted for two (2) years. If any emission-related part on your engine is defective, the part will be repaired or replaced by HFT.

## Harbor Freight Tools Emission Control Defects Warranty Coverage

Engines are warranted for a period of two (2) years relative to emission control parts defects, subject to the provisions set forth below. If any emission related part on your engine is defective, the part will be repaired or replaced by HFT.

## Owner's Warranty Responsibilities

- As the engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. HFT recommends that you retain all receipts covering maintenance on your engine, but HFT cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the engine owner, you should, however, be aware that HFT may deny you warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for shipping your engine to a HFT warranty station as soon as a problem exists. Contact the HFT Customer Service department at the number below to make shipping arrangements. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact the Harbor Freight Tools Customer Service Department at 1-800-444-3353.

## Harbor Freight Tools Emission Control Defects Warranty Provisions

### 1. Length of Coverage

HFT warrants to a first retail purchaser and each subsequent purchaser that the engine is free from defects in materials and workmanship that cause the failure of warranted parts for a period of two (2) years after the date of delivery to the first retail purchaser.

### 2. No Charge Repair or Replacement

Repair or replacement of any warranted part will be performed at no charge to the owner if the work is performed through a warranty station authorized by HFT. For emissions warranty service, contact the HFT Customer Service Department at 1-800-444-3353.

### 3. Consequential Damages Coverage

Coverage under this warranty shall also extend to the failure of any engine components caused by the failure of any warranted part while it is still covered under this warranty.

### 4. Coverage Exclusions

Warranty claims shall be filed in accordance with the provisions of the HFT warranty policy explained in the box at the top of the previous page. HFT shall not be liable for any loss of use of the engine, for any alternative usage, for any damage to goods, loss of time, or inconvenience. Warranty coverage shall also be excluded for any part which fails, malfunctions, or is damaged due to failure to follow the maintenance and operating instructions set forth in the Owner's Manual including, but not limited to:

- use of parts which are not authorized by HFT
- improper installation, adjustment or repair of the engine or of any warranted part unless performed by an authorized warranty center
- failure to follow recommendations on fuel use contained in the Owner's Manual
- improper or inadequate maintenance of any warranted parts
- repairs performed outside of the authorized warranty service dealers

- (f) alterations by changing, adding to or removing parts from the engine.

## **5. Service and Maintenance**

Component parts which are not scheduled for replacement as required maintenance or are scheduled only for regular inspection to the effect of "repair or replace as necessary" are warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time up to the first scheduled replacement point for that part. Any replacement part, provided it is equivalent in durability and performance, may be used in performance of maintenance or repairs. The owner is responsible for commissioning a qualified technician/mechanic to perform all required maintenance, as outlined in the **Inspection, Cleaning, and Maintenance** section on page 14 and 15 of this manual.

## **6. Warranted Parts**

### **1) Fuel Metering System**

- i) Carburetor and its internal parts.
- ii) Fuel pump (if so equipped).
- iii) Cold start enrichment system.

### **2) Air Induction System**

- i) Intake pipe/manifold.
- ii) Air cleaner.

### **3) Ignition System**

- i) Spark plug.
- ii) Magneto ignition system.

### **4) Catalyst System (if so equipped)**

- i) Exhaust pipe stud.
- ii) Muffler.
- iii) Catalytic converter (if so equipped).

### **5) Miscellaneous items Used in Above Systems**

- i) Vacuum, temperature and time sensitive valves and switches.
- ii) Hoses, belts, connectors, and assemblies.

**Record Product's Serial Number Here:** \_\_\_\_\_

**Note:** If product has no serial number, record month and year of purchase instead.

**Note:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

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## LIMITED 90 DAY WARRANTY

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Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

**3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • (800) 444-3353**